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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,313	09/23/2003	Zhiqiang Wang	200309072	9275

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FORT COLLINS, CO 80527-2400

EXAMINER

PARK, JEONG S

ART UNIT	PAPER NUMBER
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2454

NOTIFICATION DATE	DELIVERY MODE
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02/04/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/667,313	Applicant(s) WANG ET AL.	
	Examiner JEONG S. PARK	Art Unit 2454	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/18/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to Application No. 10/667,313 filed on 9/23/2003. The amendment presented on 11/18/2008, which amends claims 1, 5, 10, 21 and 27, is hereby acknowledged. Claims 1-27, 29 and 30 have been examined.

Response to Arguments

2. Applicant's arguments with respect to claims 1-27 and 29-30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8-11, 13, 14, 17-24, 27, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson et al. (hereinafter Gleeson)(U.S. Patent No. 5,959,989) in view of Ishwar et al. (hereinafter Ishwar)(U.S. Pub. No. 2004/0078469 A1), and further in view of Luke et al. (hereinafter Luke)(U.S. Pub. No. 2004/0133634 A1).

Regarding claims 1, 10, 21, 27 and 29, Gleeson teaches as follows:

A method or a system for resolving network connectivity (a mechanism for efficiently distributing multicast messages to subscribing entities in a computer network, see, e.g., abstract), the method comprising:

Determining whether a first device (port 1 of 220 in figure 2A) is included in a

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portion of a network (VLAN designation RED) in which the first device can receive information directed to all devices (port 1 and port 5 belongs to same VLAN designation RED) included within the portion of the network (determining each port with VLAN designation, see, e.g., col. 8, lines 4-18);

Obtaining a first identifier (VLAN designation) associated with the portion of the network (each port in the intermediate device obtains a VLAN designation, see, e.g., col. 8, lines 4-18);

Assigning a second identifier (LAN ID 204 in figure 2A) to the portion of the network unique to other portions of the network (each LAN and entity coupled to a port, see, e.g., col. 8, lines 4-18 and figure 2A); and

Identifying each device (each port) with LAN ID (port number (1 in figure 2A) or entity MAC address (27 in figure 2A)) and VLAN designation (R in figure 2A)(see, e.g., col. 8, lines 4-18 and figure 2B).

Gleeson does not teach that modifying the first identifier with the second identifier and associating the modified identifier with the first device and the portion of the network.

Ishwar teaches as follows:

Modifying the first identifier (VLAN ID) associated with the portion of the network to include the second identifier (Customer ID)(the customer-specific VLAN IDs are a combination of a VLAN ID and a customer ID, see, page 3, paragraph [0026] and figure 2); and

Associating the modified first identifier with the first device and the portion of the

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network (a network that utilizes customer-specific VLAN IDs to identify each port in the service provider edge device, see, e.g., page 3, paragraph [0031] and figure 5).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Gleeson to include a customer-specific VLAN ID by combination of two IDs together as taught by Ishwar in order to establish and maintain private broadcast domains by expanding the number of unique VLAN IDs.

Gleeson in view of Ishwar do not teach that the second identifier is based on a domain identifier.

Luke teaches of assigning VLAN ID (equivalent to applicant's second identifier) for each VLAN associated with the virtual domain (see, e.g., page 18, paragraph [0469]).

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Gleeson in view of Ishwar with Luke to include assigning VLAN ID with a virtual domain in order to efficiently assign unique VLAN ID.

Regarding claims 2, 11, and 22, Gleeson teaches as follows:

Identifying a second device (port 5 of Intermediate device 220 in figure 2A) included in the portion of the network (identifying each port with VLAN designation, see, e.g., col. 8, lines 4-18)); and

Ishwar teaches the associating the modified first identifier with the second device as presented above. Therefore the limitations of claims 2, 11, and 22 are met by Gleeson in view of Ishwar.

Regarding claims 3 and 23, Ishwar teaches that presenting a first symbol identifying the first device connected to a second symbol identifying the portion of the network using the modified first identifier (a network that utilizes customer-specific VLAN IDs to identify each port in the service provider edge device, see, e.g., page 3, paragraph [0031] and 520 in figure 5). Therefore the limitations of claims 3 and 23 are met by Gleeson in view of Ishwar.

Regarding claims 4 and 13, Gleeson teaches that the portion of the network is a broadcast domain (VLAN is well-known to provide same broadcast domain from different LANs, see, e.g., col. 1, line 55 to col. 2, line 9).

Regarding claims 5, 14, and 24, Gleeson teaches that the portion of the network is a Virtual Local Area (see, e.g., col. 8, lines 4-18 and figure 2B).

Regarding claims 8 and 19, Gleeson teaches that the first device is a port (port 1 of the intermediate device 220 in figure 2A) included in a network switch (the intermediate device is a switch or hub, see, e.g., col. 7, lines 50-59).

Regarding claims 9 and 20, Gleeson teaches that the first device is coupled to other portions of the network by a network router (multicast network devices (MND) 226, 228 in figure 2A are multicast routers, see, e.g., col. 7, lines 50-59 and figure 2A).

Regarding claim 17, Gleeson teaches that a first table (240 in figure 2B) having an entry associating an identifier of the network switch with the identifier of the VLAN (each intermediate device (equivalent to applicant's network switch) includes a VLAN designation table, see, col. 8, lines 19-29 and figure 2B).

Regarding claim 18, Gleeson teaches that a second table (240 in figure 2B)

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having an entry associating an identifier of the network switch with the second identifier (entity MAC addresses 27-29 in figure 2A and 2B identify the LAN (interpreted as the second identifier), see, col. 8, lines 19-29 and figure 2B).

Regarding claim 30, Gleeson teaches that the intermediate device (220-223 in figure 2A) store the VLAN designation in a memory area (see, e.g., col. 8, lines 19-29).

5. Claims 6, 7, 15, 16, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson et al. (hereinafter Gleeson)(U.S. Patent No. 5,959,989) in view of Ishwar et al. (hereinafter Ishwar)(U.S. Pub. No. 2004/0078469 A1) and Luke et al. (hereinafter Luke)(U.S. Pub. No. 2004/0133634 A1), and further in view of Shamir et al. (hereinafter Shamir)(U.S. Patent No. US 6,269,076 B1).

Regarding claims 6, 7, 15, 16, 25, and 26, Gleeson in view of Ishwar and Luke teach all the limitations of claims 1, 10 and 21 as presented above except for including Management Information Base configure to store an identifier of the VLAN and using a Simple Network Management Protocol to obtain the identifier of the VLAN from the MIB.

Shamir teaches as follows:

Network Management System utilizes the Management Information Base maintained in the network devices (see, e.g., col. 8, lines 9-10);

The NMS obtains status about a device and configures settings and functions within the MIBs in the managed network device via the SNMP protocol (see, e.g., col. 8, lines 20-24); and

The MIB contains the status of all physical and logical elements including the status of all VLANs (see, e.g., col. 8, lines 38-42).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Gleeson in view of Ishwar and Luke to include MIB to store the identifier of the VLAN and SNMP to obtain the identifier of the VLAN from the MIB as taught by Shamir in order to manage efficiently the devices in a communications network in the reliable type of database.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson et al. (hereinafter Gleeson)(U.S. Patent No. 5,959,989) in view of Ishwar et al. (hereinafter Ishwar)(U.S. Pub. No. 2004/0078469 A1) and Luke et al. (hereinafter Luke)(U.S. Pub. No. 2004/0133634 A1), and further in view of Lewis et al. (hereinafter Lewis)(U.S. Patent No. US 6,026,442).

Regarding claim 12, Gleeson in view of Ishwar and Luke teach all the limitations of claim as presented above per claim 3 except for indicating a system with a display to present the claimed method.

Lewis teaches that a display unit (114 in figure 1) is connected to the processor so as to display, generally in graphic form, a representation of the network including its topology and functions (see, e.g., col. 4, lines 17-20 and figure 1).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Gleeson in view of Ishwar and Luke to include a display in a system as taught by Lewis in order to provide user friendly GUI for easier and more efficient

interactions in the Network Management System.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEONG S. PARK whose telephone number is (571)270-1597. The examiner can normally be reached on Monday through Friday 7:00 - 3:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. P./
Examiner, Art Unit 2454

January 22, 2009

/Nathan J. Flynn/
Supervisory Patent Examiner, Art Unit 2454